

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016036**Date Inspected:** 29-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1100**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Section**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above.

This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

1) At weld joint E5/E6 – D2, inside the OBG section: ABF welding personnel Hua Qian Hwang (# 2930) was performing Flux Cored Arc Welding (FCAW). QC Inspector John Pagliero was present.

2) At weld joint E4/E5 – E1 and E2, outside the OBG section: ABF personnel were grinding the back gouged area of the weld.

3) At 5E/6E-B: A variation from previous methods of welding this joint were observed.

At weld joint E5/E6 – D2, inside the OBG section this QA Inspector observed ABF welding personnel Hua Qian Hwang (# 2930) performing FCAW at the area adjacent to weld joint C where use of the track system is not possible due to access. This QA Inspector observed QC Inspector John Pagliero verify the following FCAW parameters: 230 amperes and 23 volts at a travel speed of 260 mm per minute. The welding observed appeared to comply with Welding Procedure Specification (WPS) ABF-WPS-D15- 3040A-1.

At weld joint E4/E5 – E1 and E2, outside the OBG section this QA Inspector observed ABF personnel using a

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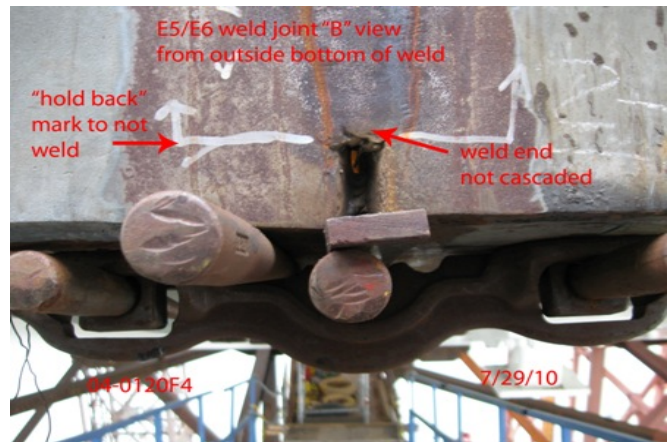
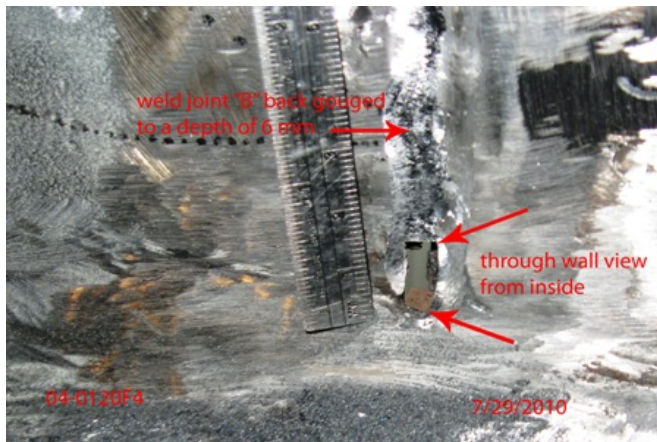
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plasma torch to back gouge the weld and were later observed using a grinder, with a grinding wheel attached, grinding the back gouged area of this weld.

At weld joint E5/E6, inside the OBG section, the previous day this QA Inspector had randomly observed ABF personnel setting up to back gouge weld joint E5/E6-B, but observed the work had not started during this QA Inspector's shift. This QA Inspector observed back gouging had been performed and during a random visual verification observed the following: an area approximately 12 mm in length and 6 mm wide where the back gouging process had removed all weld metal creating a hole through thickness. See photos below of area both inside and outside. Previously ABF personnel had completed the weld joint "B" prior to welding joint "C". It appears ABF has elected a change by not completing weld joint "B" prior to welding joint "C". Please notice the "hold back" or "do not weld" marks on the face of joint "B" on the photo from the outside. This QA Inspector also observed the weld termination had not been cascaded to facilitate further welding. This QA Inspector observed this condition at the following locations: E5/E6-B, E5/E6-F, E4/E5-B and E4/E5-F. This QA Inspector asked Lead QC Inspector Mike Johnson and QC Inspector Steve McConnell if there were aware of this issue and of the proposed method of completing weld joint "B" now that a through wall hole was present. Both QC Inspectors acknowledged they were aware of the change and issues, but that ABF had not informed them of the proposed method to complete the weld joint. QC Inspector Steve McConnell stated a typical condition existed at several locations on the West OBG sections. This QA Inspector brought the issue to the attention of onsite Lead QA Inspector Rick Bettencourt and was informed the information regarding the condition had been passed onto Lead QA Inspector Bill Levell.

### Summary of Conversations:

As noted above.



### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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**Inspected By:** Hager,Craig

Quality Assurance Inspector

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**Reviewed By:**      Levell,Bill

QA Reviewer